

Study of Gallbladder Content Spillage in Laparoscopic Cholecystectomy



Medical Science

KEYWORDS :

DR. AMIT R. PATEL

3RD Year resident, General Surgery Department, Civil Hospital, Ahmedabad

DR. KEVAL J. SANSIYA

4th Year resident, General Surgery Department, Civil Hospital, Ahmedabad

ABSTRACT

Gallbladder perforation during laparoscopic cholecystectomy is a reasonably common problem and may result in spilled and lost gallstones. Though uncommon, these stones may lead to significant complications. 25 patients who underwent laparoscopic cholecystectomy with intra operative Gallbladder contents spillage from July 2012 to December 2014, were studied. 16 patients had only bile spillage while 7 patients had bile/mucus/pus with stone spillage. On follow up 20% patients developed complication, 3 patients had port site wound infection, 1 had intra abdominal abscess, 1 had sinus tract formation. Clear documentation and patient awareness of lost gallstones is of utmost importance, as this may enable prompt recognition and treatment of any complications.

INTRODUCTION

With the popularity and quality of diagnostic ultrasound and the therapeutic option of laparoscopic cholecystectomy, more gall stones are now detected and consequently operated upon. With better patient satisfaction and a shorter hospital stay, laparoscopic cholecystectomy has become the method of choice. However, this change in practice from open surgery has led to different problems such as biliary tract injuries and intraoperative spillage of stones. The first complication, though serious, can be minimised with experience, supervision, and good training, whereas the latter complication of spilled gall stones is often ignored. Gall stone spillage during laparoscopic cholecystectomy is common. Studies show that the incidence of spilled gallstones during laparoscopic cholecystectomy accounts for 6 to 40% of procedures performed, while incidence of stone loss is unknown. Complications from stones that are left within the peritoneal cavity can cause unusual but significant morbidity. This problem occurs less frequently in open surgery and the spilt stones are easy to retrieve. So here evaluate the cases in which gallbladder perforation and spillage occurred in laparoscopic cholecystectomy to evaluate the postoperative outcome and the risk factors for spillage as well.

MATERIALS AND METHODS

The study was conducted at the Department of General Surgery, Civil Hospital, Ahmedabad, Gujarat. A total of 25 patients, with chronic calculus cholecystitis who underwent laparoscopic cholecystectomy with intra operative Gallbladder contents spillage from July 2012 to December 2014, were studied. Patients were interviewed according to the proforma. Data was obtained from surgical records to complete proforma and summarize events. Data collected included clinical features, past history, laboratory investigations, imaging, intraoperative or postoperative complications and duration of hospital stay.

RESULT

In present study there were 25 patients with mean age 41.48 ranging from 23 to 61 years. Female group accounts for 76%(n=19) and male group for 24%(n=6) of study.

In this study 88%(n=22) patients have multiple GB stones while 12%(n=3) patients have single GB stone. 32%(n=8) patients have distended gallbladder and 68%(n=17) patients have contracted gall bladder. Out of these, 92%(n=23) patients have normal GB wall with 8%(n=2) have thickened GB wall. None of these have peri GB collection.

In this study, Intraoperative 100% GB were chronically inflamed out of which 4%(n=1) turned intomucocele and 4%(n=1) into pyocele. There was peri GB adhesions and difficult dissection in 64%(n=16) of patients while 36%(n=9) had no peri GB adhesions.

Table 1 GB contents spillage

Spillage	No. of patients(n=25)	Percentage
Bile	23	92%
Mucus	1	4%
Pus	1	4%
Stone	7	28%

In this study out of 25 GB contents spillage, 92% patients had bile spillage, 4% had pus spillage and 4% had mucus spillage. 7 (28%) patients had stone spillage. 16(64%) patients had only bile spillage while 7 (28%) patients had bile/mucus/pus with stone spillage.

In present study 44%(n=11) patients discharged on 3rd postoperative day while 36%(n=9) were discharged on 2nd postoperative day. Mean postoperative stay was 3.2 ranging from 1 to 15.

Table 2 Postoperative complications

Complications	No. of patients(25)	Percentage
Port site wound infection	3	12%
Port site sinus tract	1	4%
Intra abdominal abscess	1	4%
No complications	20	80%

Table 3 Relation between gallbladder spillage and complications

	Complications developed	No complications	Total
Bile only	1	17	18
Bile/mucus/pus+stone	4	3	7
Total	5	20	25

In this study no complications occurred in 80% cases. 20% patients developed complications of which 3 patients had port site wound infection, 1 had intra abdominal abscess and 1 had sinus tract formation. 16% complicated cases had both stone and bile/pus spillage while 4% had only bile spillage.

DISCUSSION

Intraoperative gall bladder contents spillage is common in laproscopic cholecystectomy in comparison with open cholecystectomy. This gallbladder contents spillage cause uncommon but significant complications, So it need to discuss the risks, complications and management gallbladder contents spillage.

Certain situations lead to higher risk of gallbladder perforation during laparoscopic cholecystectomy. Patients with acutely inflamed gallbladders have friable tissue which is susceptible to tear. Dense adhesions around the gallbladder make dissection potentially more difficult, and a tense, distended gallbladder that has not been decompressed is at risk of perforation. Spilled stones are also caused by the slipping of the cystic duct clip or the tearing of the gallbladder while it is retrieved from the port site. There is also high risk of perforation due to inadequate laparoscopic experience.

Risk factors for complications after spilled stones, such as the presence of infected bile, spillage of pigmented gallstones, multiple stones (>15), stone size (>1.5 cm) and old age. The presentation of complications will vary from patient to patient, and depend largely on the site and type of complication suffered. Complications from lost gallstones and these ranged from the most common like intra-abdominal and subcutaneous abscesses and fistulas, port site infection and fistula-sinus, to the less common, such as liver abscess, staphylococcus bacteraemia, broncholithiasis and expectoration, empyema, granulomas, bowel obstruction and incarceration within a hernia sac.

The best way to avoid complications from lost gallstones is to have awareness of the situations where perforation is likely, perform precise dissection, meticulously handle tissue and use devices such as endobags to retrieve dissected gallbladders through the port sites. When gall bladder perforation occurs it is crucial to minimise the number of stones spilled, attempt to retrieve all stray stones and to copiously irrigate the peritoneal cavity. This serves the purpose of diluting any infected bile and may allow the stones to be washed up into the suction system. Some surgeons advocate the use of clips or an endoloop to close the hole in the gallbladder, while others will introduce a retrieval bag and 'park' it on the liver to receive all spilled stones. In some situations it may be necessary to use an extra port to retract liver to improve visualisation. Antibiotic prophylaxis is not routinely used by everyone, but its therapeutic use has been suggested for patients who undergo laparoscopic cholecystectomy to treat acute cholecystitis, have visibly infected bile, or have a high probability for lost stones. However, antibiotics should not be administered until the bile and stones have been collected for examination and culture, which would allow for the antibiotic selection to be tailored to the patient's condition. Possibly the most important aspect in the management of perforated gallbladders and potential stone spillage is documentation. As already mentioned, diagnosis of complications related to lost stones is often done only after the identification of gallstones on radiological imaging. If the documentation is clear and the patient is aware of the perforation, then clinicians may be alerted early to the possibility of a stone complication in order to expedite treatment

The imaging method of choice is usually ultrasound, as stones are usually visualised well using this method, but sometimes may need CT or MRI. Patients should be treated according to the type of complications and the stones should eventually be removed. Abscesses should be drained, whether percutaneously or surgically. Ideally this is done via minimally invasive techniques, but open surgery is often required.

CONCLUSION

Gallbladder perforation during laparoscopic cholecystectomy is a reasonably common problem and may result in bile and stone spilled and lost gallstones. Though uncommon, these stones may lead to early or late significant complications, which can be a diagnostic challenge and cause significant morbidity to the patient. Proper care should be taken to avoid gall bladder perforation, stone spillage. If spillage occur, clear documentation and a high index of suspicion for complications should be maintained for early recognition and treatment of complications from this surgery.

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